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applying vacuum to the control opening while also supplying pressurized air to the pneumatic pressure-operated valve to maintain the valve closed, thereby drawing in sample material to the chamber; pneumatically determining when the chamber is filled to a preselected level;

discontinuing vacuum to the control opening when a filled chamber is determined; and

discontinuing the supply of pressurized air to the pneumatic pressure-operated valve to open the valve and drain the sample into a container below.

18. The method of claim 17 wherein the pneumatically determining step comprises continuing the vacuum application until the sample material reaches the control opening, then sensing a pressure differential between the interior of the conduit leading to the con-

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trol opening and the interior of the chamber above the sample.

19. The method of claim 18 wherein the pneumatically determining step further includes opening a pilot pressure-supplying valve in response to the sensing of the pressure differential.

20. The method of claim 17 which further includes, prior to the vacuum-applying step, the step of supplying pressurized air to the control opening while also supplying pressurized air to the pneumatic pressure-operated valve to maintain the valve closed, for a measured time period.

21. The method of claim 17 wherein the vacuum-applying step comprises supplying pressurized air to a venturi-type vacuum generator connected to the control opening.

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